Claims

1. A method for inducing apoptosis in a cell comprising
reducing expression or activity of one or more mitotic checkpoint molecules.

2. The method of claim 1, wherein the expression of the one or more mitotic checkpoint molecules is reduced by contacting the cell with a siRNA specific for the one or more mitotic checkpoint molecules.

3. The method of claim 2, wherein the mitotic checkpoint molecule is BubR1.

4. The method of claim 2, wherein the mitotic checkpoint molecule is Mad2.

5. The method of claim 2, wherein the mitotic checkpoint molecule is Bub3.

6. The method of claim 2, wherein the mitotic checkpoint molecule is CENP-E.

7. The method of claim 1, wherein the activity of the one or more mitotic checkpoint molecules is reduced by contacting the cell with an antibody that binds to the mitotic checkpoint molecule.

8. The method of claim 1, wherein the antibody is selected from the group consisting of monoclonal antibodies, human antibodies, humanized antibodies, chimerized antibodies, and antigen-binding fragments thereof.

9. The method of claim 7, wherein the mitotic checkpoint molecule is BubR1.

10. The method of claim 7, wherein the mitotic checkpoint molecule is Mad2.

11. The method of claim 7, wherein the mitotic checkpoint molecule is Bub3.

12. The method of claim 7, wherein the mitotic checkpoint molecule is CENP-E.

13. The method of claim 1, wherein activity is reduced by contacting the cell with a molecule that inhibits kinase activity of the one or more mitotic checkpoint molecules.

14. The method of claim 13, wherein the mitotic checkpoint molecule is BubR1.

15. A method for treating cancer comprising:

administering to a subject in need of such treatment an effective amount of an agent that reduces expression or activity of one or more mitotic checkpoint molecules.

16. The method of claim 15, wherein the expression of the one or more mitotic checkpoint molecules is reduced by administering a siRNA specific for the one or more mitotic checkpoint molecules.

17. The method of claim 16, wherein the mitotic checkpoint molecule is BubR1.

18. The method of claim 16, wherein the mitotic checkpoint molecule is Mad2.

19. The method of claim 16, wherein the mitotic checkpoint molecule is Bub3.

20. The method of claim 16, wherein the mitotic checkpoint molecule is CENP-E.

21. The method of claim 15, wherein the activity of the one or more mitotic checkpoint molecules is reduced by administering an antibody that binds to the mitotic checkpoint molecule.

22. The method of claim 15, wherein the antibody is selected from the group consisting of monoclonal antibodies, human antibodies, humanized antibodies, chimerized antibodies, and antigen-binding fragments thereof.

23. The method of claim 21, wherein the mitotic checkpoint molecule is BubR1.

24. The method of claim 21, wherein the mitotic checkpoint molecule is Mad2.

25. The method of claim 21, wherein the mitotic checkpoint molecule is Bub3.

26. The method of claim 21, wherein the mitotic checkpoint molecule is CENP-E.

27. The method of claim 15, wherein activity is reduced by administering a molecule that inhibits kinase activity of the one or more mitotic checkpoint molecules.

28. The method of claim 27, wherein the mitotic checkpoint molecule is BubR1.

29. The method of claim 15 wherein an anti-cancer therapy is used in combination with the agent.

30. The method claim 29, wherein the anti-cancer therapy is chemotherapy.

31. The method claim 30, wherein the chemotherapy is one or more microtubule poison drugs, and wherein the chemotherapy is not co-administered with the agent..

32. A method for treating a hyperproliferative cell disease comprising:

administering to a subject in need of such treatment an effective amount of an agent that reduces expression or activity of one or more mitotic checkpoint molecules.

33. The method of claim 32, wherein the expression of the one or more mitotic checkpoint molecules is reduced by administering a siRNA specific for the one or more mitotic checkpoint molecules.

34. The method of claim 33, wherein the mitotic checkpoint molecule is BubR1.

35. The method of claim 33, wherein the mitotic checkpoint molecule is Mad2.

36. The method of claim 33, wherein the mitotic checkpoint molecule is Bub3.

37. The method of claim 33, wherein the mitotic checkpoint molecule is CENP-E.

38. The method of claim 32, wherein the activity of the one or more mitotic checkpoint molecules is reduced by administering an antibody that binds to the mitotic checkpoint molecule.

39. The method of claim 32, wherein the antibody is selected from the group consisting of monoclonal antibodies, human antibodies, humanized antibodies, chimerized antibodies, and antigen-binding fragments thereof.

40. The method of claim 38, wherein the mitotic checkpoint molecule is BubR1.

41. The method of claim 38, wherein the mitotic checkpoint molecule is Mad2.

42. The method of claim 38, wherein the mitotic checkpoint molecule is Bub3.

43. The method of claim 38, wherein the mitotic checkpoint molecule is CENP-E.

44. The method of claim 32, wherein activity is reduced by administering a molecule that inhibits kinase activity of the one or more mitotic checkpoint molecules.

45. The method of claim 44, wherein the mitotic checkpoint molecule is BubR1.

46. A composition comprising a therapeutically effective amount of a siRNA specific for a mitotic checkpoint molecule.

47. A composition comprising a therapeutically effective amount of an antibody that binds to a mitotic checkpoint molecule.

48. The composition of claim 47, wherein the antibody is selected from the group consisting of monoclonal antibodies, human antibodies, humanized antibodies, chimerized antibodies, and antigen-binding fragments thereof.

49. A composition comprising a therapeutically effective amount of a molecule that inhibits kinase activity of a mitotic checkpoint molecule.

50. The composition of any of claims 46-49, wherein the mitotic checkpoint molecule is BubR1.

51. The composition of any of claims 46-48, wherein the mitotic checkpoint molecule is Mad2.

52. The composition of any of claims 46-48, wherein the mitotic checkpoint molecule is Bub3.

53. The composition of any of claims 46-48, wherein the mitotic checkpoint molecule is CENP-E.

54. The composition of any of claims 46-53, further comprising a pharmaceutically acceptable carrier.